

We claim:

1. A tool for establishing a percutaneous path into bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

5 a circumferential opening in the side wall, the circumferential opening having a distal terminus, and the circumferential opening extending partially about the side wall and being elongated along the axis and adapted to accommodate passage of an expandable structure from within
10 the bore; and

the bore being solid between the distal terminus of the circumferential opening and the distal end of the cannula.

2. A tool for establishing a percutaneous path into bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

5 a distal opening in the distal end communicating with the bore to accommodate passage of a guide pin; and

a circumferential opening in the side wall, the circumferential opening extending partially about the side wall and being elongated along the axis and adapted to
10 accommodate passage of an expandable structure from within the bore.

3. A tool for establishing a percutaneous path into bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

5 a circumferential opening in the side wall, the circumferential opening extending partially about the side wall and being elongated along the axis and adapted to accommodate passage of an expandable structure from within
the bore; and

10 a surface on the distal end of the cannula to anchor the distal end in bone.

4. A tool as in claim 3, wherein the circumferential opening has a distal terminus; and

the bore being solid between the distal terminus of the circumferential opening and the distal end of the cannula.

5. A tool as in claim 3, wherein the cannula has a distal opening in the distal end communicating with the bore to accommodate passage of a guide pin.

6. An assembly for treating bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

a distal opening in the distal end communicating with the bore to accommodate passage of a guide pin;

a circumferential opening in the side wall extending partially about the side wall and being elongated along the axis and adapted to accommodate passage of an expandable structure from within the bore; and

an expandable structure adapted for insertion through bone into the cannula and expansion through the circumferential opening.

7. An assembly for treating bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

a circumferential opening in the side wall, the circumferential opening having a distal terminus, and the circumferential opening extending partially about the side wall and being elongated along the axis and adapted to accommodate passage of an expandable structure from within the bore;

the bore being solid between the distal terminus of the circumferential opening and the distal end of the cannula; and

an expandable structure adapted for insertion through bone into the cannula and expansion through the circumferential opening.

8. An assembly for treating bone comprising:

a cannula having a side wall defining an internal bore aligned along an axis, the cannula having a distal end;

5 a circumferential opening in the side wall, the circumferential opening having a distal terminus, and the circumferential opening extending partially about the side wall and being elongated along the axis and adapted to accommodate passage of an expandable structure from within the bore;

10 a surface on the distal end of the cannula to anchor the distal end in bone; and

an expandable structure adapted for insertion through bone into the cannula and expansion through the circumferential opening.

9. An assembly as set forth in claim 6 or 7 or 8, wherein the expandable structure has radio opaque markers for locating the structure within the circumferential opening.

10. A method for treating bone comprising the steps of :

5 providing a cannula as defined in claim 1 or 2 or 3; inserting the cannula into cancellous bone; inserting an expandable structure through the cannula into registration with the circumferential opening; and expanding the expandable structure through the circumferential opening into contact with cancellous bone.

11. A method according to claim 10, wherein the step of expanding the expandable structure compacts cancellous bone.

12. A method according to claim 11, wherein the compaction of cancellous bone forms a cavity.

13. A method according to claim 12 and further including the step of conveying a material into the cavity.

14. A method according to claim 10 wherein the step of expanding the expandable structure moves fractured cortical bone.